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ENTOMOLOGICAL NEWS

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Some Notes on Neotropical Stagbeetles, with Descriptions of New Species (Coleoptera: Lucanidae)

By BERNARD BENESH, Burrville, Tennessee

In the present contribution the status of *Pycnosiphorus rubrovittatus* (Blanch.) (1847) is reviewed and defined, and *P. rouleti* (Solier) (1851) declared a synonym, suppressed and relegated into synonymy; three Chilean stagbeetles are described as new to entomological science, i.e., *P. magnificus, brevicollis* and *costatus,* the last two species-catalog bare names of long standing; and a correction on *Sclerostomus nitidus* Benesh is recorded.

The writer is under deep obligation to Dr. G. Kuschel, Universidad de Santiago, who personally supervised the packing and shipping of the loaned stagbeetles from Museo Nacional, Santiago, Chile. There must also be mentioned the very kind cooperation of Señor Luis E. Peña, resident of the same metropolis, who, without solicitation, submitted over 500 specimens for study, generously permitting the retention of alternate specimens, and acceding even the retention by the author of the types of species herein described. We offer here to both our sincere thanks, with assurance that the kind assistance is greatly appreciated.

Pycnosiphorus rubrovittatus (Blanchard)

Lucanus rubrovittatus Blanchard, in: Voyage d'Orbigny dans l'Amérique méridionale, vol. 6, p. 194, tab. 12, fig. 9 ♀.[1]

[1] According to SHERBORN & GRIFFIN (1934), the Atlas with plates was issued in 1842, and the descriptive text in 1847; this is corroborated by BURMEISTER's statement (1847: 423): "Da die Beschreibung der Art

Scortizus rubrovittatus Burm., Handb. d. Ent. V, 1847, p. 423.
Dorcus vittatus Solier, in: Gay's Hist. fis. y polit. de Chile, Zool., V, 1851, p. 50.
Dorcus Rouleti Solier, *loc. cit.*, V, 1851, p. 53, new synonym.
Pycnosiphorus vittatus Didier et Seguy, en pars, Encycl. Ent., A, XXVII, 1953, p. 166, nec Eschscholtz (1822).

It is emphasized here that the above cited insect is considered, for reasons unknown, to be synonym of a species, with which the insect has nothing in common, and in fact appertains to an entirely different segment of the genus *Pycnosiphorus* Solier.

The species, originally described as *Lucanus rubrovittatus* by Blanchard, was defined in this manner: "604. Lucane à bandes rouges, *Lucanus vittatus.* Pl. XII, fig. 9. Eschscholtz, Entomogr., p. 9, no. 2 (1822); *Lucanus rubrovittatus* Blanch. (olim.)."

"Niger, undique punctatus, thorace bicarinato; elytris convexis vitta sericea rubra. Long. 12 millim. Du Chili."

The next reference to the species appears in the Handbuch der Entomologie, Band V, 1847, p. 423, wherein Burmeister describes the species from plate XII, the description had then not yet been issued, as follows: "3. *Sc. rubro-vittatus:* niger, nitidus, punctatus; elytris vitta laterali aurantiaca squamosa. Long. 6'''. *Luc. rubro-vittatus* Blanch. 1. 1. fig. 9."

It should be noted here that Burmeister had changed the meaning of the description by substitution of "aurantiaca squamosa" in lieu of "sericeo rubra."

Solier (1851) followed this by repeating Blanchard's Latin diagnosis, correcting it by inserting "laterali" between "vitta sericea," and uniting *Lucanus vittatus* Eschscholtz and *rubrovittatus* Blanch., as conspecific, which was accepted by Lacordaire (1856: 31) as valid and repeated so *ad nauseam* to this date.

From the preceding we can safely assume that not one of these authors had actually examined the type of *vittatus* Eschscholtz, nor had they carefully translated the original description, for had they done so it would have been discovered that

in dem Text von d'Orbigny's Reise noch nicht erschienen ist, so kann ich weiter keine Zusätze zur Definition machen."

two distinct insects were being confused and erroneously combined.

Through the kind cooperation of Herr Nagel, I had acquired the transcription of the description of *vittatus* Eschscholtz (1822) and the late Dr. Walther Horn generously supplied the photostat of a French translation, issued in 1835, which, when carefully translated, indicated that our concepts of the species *vittatus* were absolutely misleading.

Pycnosiphorus vittatus (Eschscholtz) appertains to the *lessoni* (= *mandibularis*) group, with the distinctive mandibles of that group, the head semicircularly excavated, front of the pronotum tuberculate, body parallel and apex rounded, and the most confusing character—the so-often mentioned lateral vitta—not "sericea rubra" as recorded by Blanchard, but luteo-testaceous. The lateral vitta of *vittatus* is not on the middle of lateral declivity, but marginal, in the groove of the reflexed portion of the elytra, squamous, as noted by Burmeister, and not the "sericea rubra" or silky (or woolly) red of Blanchard.

P. rubrovittatus (Blanch.) must be included in the *femoralis* group, with the head triangularly depressed, pronotum without a frontal tubercle and with a deep discal depression, defined by a rim or crest. The species *caelatus* (Blanch.), *rubrovittatus* (Blanch.) and *magnificus* Benesh, form a natural and distinct sub-group, having flattened and laterally very declivous elytra, on which are situated the distinguishing vittae. The latter extend from the base to the suture, and, in the middle of the declivity, parallel the margins.

The male of the species was described by Solier (1851: 53) under the generic name *Dorcus,* naming it *rouleti,* with "utroque vitta obliqua, sericeo-rufa, laterali notato." The name *rubrovittatus* proposed by Blanchard in 1847, having several years priority over Solier's *rouleti,* invalidates *rouleti,* relegating it into synonymy.

The species *rubrovittatus,* as far as I am aware, is the only one with woolly vittae, all the other congeners possessing marginal squamae or other distinguishing characters. The woolly pubescence of the vittae varies from red to blood-red, purple, and

dark purple, and even slightly green. A glance at the original figure will suffice to convince anyone that *rubrovittatus* has nothing in common with *vittatus* (Eschscholtz), which, as indicated before, represents and is a member of an entirely different group.

Pycnosiphorus magnificus Benesh, n. sp.

Allied to the preceding species, but readily separated by its band of coppery or golden squamae, extending the full width of the elytra.

♂. Head transverse, twice as wide as long, anterior margin broadly concave, antero-lateral angles obtuse, diagonal to canthus, canthus opposite the eye rounded, encompassing the anterior third of the eye, behind the eye expanded into an obtuse angulation as broad as the canthus; thence converging to base; declivous from the occiput to front; opaque, with a few remote small punctures around and behind the eyes; anteocular bosses and rim of declivity quite smooth and feebly shining; eyes parallel; clypeus broad and truncate, inconspicuous. Mandibles shorter than the head, somewhat semicircular in aspect when in repose, rounded externally, sloping inwardly, apices simple, not acute; inner margin with a broad, tricuspid tooth on the left mandible and a four-cuspid tooth on the right, thence suddenly deeply excised to base; on top of the teeth and slightly inward from the cuspidate margins, with a ridge-like elevation, the left bicuspid, the right conical, simple, impunctate throughout, opaque, except the upper ridge-like elevations, which are strongly nitid. Antennae typical of the genus, scape slightly longer than the funicle and clava combined; funicle twice as long as the clava, first funicular segment club-shaped and longer than the second; second to sixth of equal length and progressively enlarged towards the clava; clava trilamellate, segments lobate and spongiose throughout.

Pronotum one and one-half times broader than long, anterior margin nearly straight, antero-lateral angles advanced and subacute, arcuate in first fourth, lateral angle broadly rounded, diagonal and slightly emarginate to basal angles, which are

obtuse, base slightly concave; disk depressed, depression well defined by crests, semicircular anterad, parallel or nearly so on sides, open behind; declivous on sides. Sparsely punctured throughout except the anterior margin, the crest of the depression and lateral margins, which are impunctate and feebly shining; the puncturation light, remote, gradually increasing in size towards the lateral margins and the base of discal depression.

Scutellum somewhat constricted at base (hastate), broader than long, puncturation fine, cribriform, each puncture with short coppery pile. Elytra shield-shaped, broadest in middle, slightly longer than broad, flattened on top, declivous laterally; closely cribripunctate, the punctures smaller than those of the pronotal base; at the base, extending the full width (including humeri), with a transverse band of orange-red lanceolate squamae, which under lens appear like burnished copper or gold; mediad of the lateral declivity, as in *rubrovittatus,* is a vitta of roundish squamae, of identical coloration as the basal band, extending from the basal band to the apical angles, but not attaining the apical margin or suture.

Legs slender, cherry-red, excepting the anterior tibiae, which are darker (reddish-brown); anterior tibiae furcate, furcation bent downward, tridentate with subequal teeth between the furcation and the knees, with smaller denticles in between; intermediate and posterior tibiae unispinose mediad; tarsi slightly shorter than the tibiae, piceous, glabrous dorsally, fulvisetous on venter; onychium present.

Underneath, dull black; mentum somewhat trapezoidal, broader than long, laterally rounded, base straight, slightly declivous from base to front, rugulose throughout; gula feebly depressed mediad and remotely punctured, base elevated and smooth; genae semicircularly depressed, roughened and coarsely punctured; prosternum coarsely sculptured with close, transverse-ovate punctures, gradually reduced in size towards the episternum, which is nearly smooth and feebly shining; prosternal process not prominent, rounded behind; meso- and metasternum, as well as the abdominal sterna, punctured laterad, the latter somewhat less distinctly; midsection of meso- and metasternum, as well as of the abdominal sterna, impunctate.

Female unknown.

Measurements of the typical specimen (in millimeters):

	length	× width
Head	2.4	6.0
Mandibles	2.1	...
Pronotum	4.4	7.0
Elytra	7.9	6.5
Scutellum	0.5	0.7

Holotype: A male, Tregualemu, CHILE, 5 Dic. '53, 300/500 M., in the collection of the author, ex-coll. L. E. Peña.

Paratopotype: A male, in the collection of Señor Luis E. Peña, Santiago, Chile.

Pycnosiphorus brevicollis Benesh, n. sp.

Sclerognathus brevicollis Germain, Bol. Museo Nacional, Santiago, III, 1911, p. 66, nomen nudum.

Black, subnitid, broadly convex, depressed.

♂. Head transverse, twice as broad as long, anterior margin straight, clypeus projecting, broad, feebly tricuspid; antero-lateral angles obtuse, oblique towards the canthi, canthus narrow, encompassing the anterior half of the eye; eyes small, parallel; posterior portion behind the eyes produced into a conspicuous acumination on an even plane (the broadest part of the head); front declivous, triangularly depressed from the occiput to front, remotely punctured by fairly large punctures on post-ocular areas, less so and the punctures smaller on the front. Mandibles slightly shorter than the head, wedge-forming when in repose, externally nearly straight, the apices very feebly bent inward, obsoletely keeled on top, above the inner edge, undulate and excised basad. The mandibles, in repose, seem to form a straight line in prolongation with the canthus, the wedge thus formed being about 75–76 degrees, readily differentiating this new form from all its known congeners. Antennae as in the preceding species.

Pronotum one and one-half times broader than long, anterior margin nearly straight and not projecting beyond the subacute antero-lateral angles, anterior third gently diverging and ar-

cuate, center parallel, basal third with the lateral angles obtuse, diagonal to basal angles, the latter rounded, base nearly straight; disk slightly flattened in the anterior half, sides gently slanting, irregularly punctured within the discal depression and lateral areas, the puncturation gradually increasing in size from the front to base.

Scutellum small, triangular in outline, twice as wide as long, the center with a lunate impression. Elytra obovate, longer than wide, broadest beyond the middle (from base), attenuate in apical third and gently rounded; punctured similarly to the pronotum, but somewhat more strongly in the humeral and lateral areas, the punctures separated approximately by their diameter; humeri produced, mucronate, right angled, and as wide as the pronotal base.

Legs short and stout; anterior tibiae externally strongly furcate, tridentate from distal furcation to the knees, the teeth progressively reduced in size; intermediate and posterior tibiae with a single median spine, tarsi shorter than the tibiae, glabrous on top, setose beneath; onychium present.

Beneath, the mentum is twice as broad as long, broadly arcuate in front, abruptly rounded laterally, base straight, feebly impressed each side of the center, punctured throughout, the puncturation somewhat cribriform. Genae, prothoracic and metathoracic sterna, as well as the sterna of the abdominal segments, laterally strongly punctured, the punctures large, separated about their diameter, the puncturation smaller and less numerous along the center; prosternal process flattened between the coxae, narrowing towards the posterior, rounded and laterally constricted.

♀. Head nearly twice as broad as long, anterior margin straight, clypeus anteriorly bicuspid, antero-lateral angles obtuse, diagonal towards the eyes, posteriorly of the eyes straight to the base; front with a conspicuous depression each side of the center, on line with the ante-ocular bosses, within the usual triangular depression ascribed by Benesh (1955) to the *femoralis* group; puncturation closer, smaller and coarser than that of the male, contiguous and rugulose in front angles and behind the eyes. Mandibles shorter than the head, externally arcuate,

keeled on top, apices simple, inner margin of each mandible with an antemedian simple tooth, the left somewhat stronger and slightly in advance of the right one.

Pronotum narrower in anterior half, diverging to posterior, without the lateral angulation present on the male, basal angles broadly arcuate, the puncturation throughout somewhat coarser. Elytra similar to the male's in form and sculpture, but in proportion somewhat broader.

Legs stouter than male's, the spination of intermediate and posterior tibiae more distad than in male, and as in all dimorphic lucanids, the tarsi are shorter than in the opposite sex.

Underneath, the sculpture is more uniform, especially on the sterna, the puncturation shallow and cribriform in appearance.

Measurements of the typical examples (in millimeters):

	♂ length × width	♀
Head	1.9 × 5.0	1.3 × 3.3
Mandibles	2.1 × . . .	1.1 × . . .
Pronotum	3.6 × 5.6	3.2 × 5.0
Elytra	6.8 × 5.4	6.6 × 5.2
Scutellum	0.2 × 0.4	0.2 × 0.2

Holotype: A male, Constitucion, Costa de Maule, CHILE, 27 Nov. 1953, in collection of B. Benesh, ex-coll. L. E. Peña.

Paratypes: 2 males, Tregualemu, 9 Dic. '53, 300/500 M., in collection of L. E. Peña; 1 male Constitucion, Chile, 27, XI, '53, in collection of L. E. Peña; 1 male, Chile, Prov. Valdivia, Panguipulli, Dic. –9/51, Gutierrez leg., in collection of A. Martinez, Buenos Aires, Argentina; 2 males, Constitucion, Chile, 27, XI, '53, 10 Km S., B. Benesh collection, ex-coll. L. E. Peña; 1 male, without data and minus the abdomen, labeled: *brevicollis* Germain n. n.: Kuschel det. 195., in the collection of Museo Nacional, Santiago, Chile.

Allotype: 1 female, without data, in collection of Museo Nacional, Santiago, Chile.

Paratype: 1 female, Constitucion, Chile, 27, XI, '53, in collection of B. Benesh, ex-coll. L. E. Peña.

Readily distinguished from other congeners by the wedge-shaped mandibles, sparse puncturation and more nitid aspect.

Pycnosiphorus costatus Benesh, n. sp.

Sclerognathus costatus Germain, Bol. Mus. Nacion., Santiago, III, 1911, p. 66, nomen nudum.

♂. Head nearly twice as broad as long, anterior margin slightly sinuous (♂) (straight in female), clypeus fairly broad and produced, with a well-defined tubercle in middle of anterior margin; anterior angle obtusely angulate, thence oblique (slightly emarginate in center [less so in female]) to canthus; canthus rounded and encompassing the anterior half of the eye; postocular portion parallel to base; declivous from the occiput to front, apex of triangular depression (on occiput) deeply hollowed, closely and coarsely punctured, the puncturation gradually more diffused and reduced in size towards the front, rugulose behind the eyes and the crest of the triangle; crest with a few punctures on the occiput and around the eyes, impunctate between. Mandibles slightly shorter than the head, falciform, externally rounded, keeled on top, apices simple, closely and deeply punctured, inner edge of each mandible with a strong, antemedian bicuspid tooth, the left stronger but somewhat shorter than the right. Antennae as in the preceding species.

Pronotum one and one-half times broader than long, anterior margin nearly straight, antero-lateral angles produced and obtusely angulate, extending well beyond anterior margin, broadly arcuate in anterior third, parallel or slightly constricted in center, posteriorly converging and somewhat obliquely truncate to basal angles, which are nearly right, basal margin straight (♂) (slightly produced in middle and broadly arcuate ♀); disk strongly depressed behind anterior margin to base, strongly crested on sides, center with a longitudinal glabrous and impunctate narrow strip, extending from base nearly the full length of the depression; depression irregular in outline, resembling somewhat the figure 8, sculptured throughout by large, confluent punctures, the punctures within with tawny down, each bearing central, luteous, tuft-like squamae; lateral areas similarly sculptured, but somewhat coarser in anterior angles, with similar down and squamae.

Scutellum longer than broad, apex rounded, closely, but not confluently punctured, and on a lower plane than the elytra. Elytra one and one-half times longer than broad, humeri produced and mucronate, sides gently broadening from humeral angles to beyond the middle, thence broadly arcuate and attenuate to apex; suture of elytra with produced costa, and each elytron bicostate, as follows: first costa (humeral) simple, extending from the humeral spine obliquely inward, thence paralleling, in the middle of declivity, the lateral margin, terminating in an elongate simple point, about 1.5 to 2 mm. from the apex; second costa (median) closer to the suture, not precisely centered between the sutural and humeral costae, extends from base to apical declivity, ending on or slightly beyond the terminal of the first costa; this costa is somewhat irregular in outline, being constricted here and there, sometimes with a lateral branch or finger, or it may be broken (the type) and the connection feebly indicated. The costae are strongly produced, rounded on top, glabrous, shining; the sutural costa with a few distant punctures, marginal and intercostal areas are confluently punctured, similar to pronotum but more uniform, the downy pubescence and squamae much clearer, giving the insects a somewhat velvety appearance.

Legs slender, without noticeable deviation from the norm; anterior tibiae fairly broad in both sexes, distal furcation strong but unequal, the front prong twice as long as the hind, with three teeth, gradually reduced in size, between the distal fork and the knee. Intermediate and posterior tibiae unispinose mediad.

Beneath piceous, angles of pronotal episternum impunctate and nitid. Punctured throughout, excepting the episternum just mentioned, by fairly large, shallow punctures, separated about their own diameter; somewhat less shining along the median line and opaque towards margins.

♀. Female is less distinct from the male than appears to be the case in the other known congeners; the head is somewhat smaller, more coarsely sculptured, occipital crest not continuous but broken in center and supplanted by a deep, circular, strongly

punctured pit; mandibles shorter, the teeth simple and reduced; pronotum is not parallel as in the male, but broadly arcuate to basal angles, the angles somewhat emarginate and the base slightly produced and broadly arcuate. The elytral median costae are more uniform than those of the male (in the allotype), each one having two forward-pointing outer branches or fingers.

Measurements of the typical examples (in millimeters):

	♂ length × width	♀
Head	2.2 × 4.3	1.5 × 3.7
Mandibles	1.6 × . . .	1.3 × . . .
Pronotum	4.1 × 6.0	3.9 × 5.7
Elytra	8.1 × 6.2	8.0 × 5.7

Holotype: A male, without locality, in Museo Nacional, Santiago, Chile.

Paratype: A male, without data, in B. Benesh collection, ex-coll. Museo Nacion., Santiago, Chile.

Allotype: A female, Pemehue, Ene.—1896, in collection of Museo Nacion., Santiago, Chile.

Paratypes: A female, without data, but bearing an ancient label *costatus,* in collection of the author, ex-coll. Museo Nacion., Santiago, Chile; 1 female, Pinares, Lonquimai, 15 Enera 1938, Chile, in collection of California Academy of Sciences; 1 female, Cornell Univ., Lot 606, Ex Museo Nacion. Santiago, Chile, in Cornell University collection; 1 female, same data as the preceding example, No. 5037, in Chicago Natural History Museum.

This remarkable species can be readily separated from all the thus far recorded species, by the costate elytra, tawny down, and squamae; it is basically dark brown, piceous or black in color, with the distinctive nude crests on the pronotum and the costae of elytra polished and nitid, and the downy vestiture presenting, to naked eye, a velvety appearance.

Sclerostomus nitidus Benesh

In describing the present species, Benesh (1955) by inadvertence described the pronotum to be one and one-half times as long as broad; the description should read: one and one-half

times broader than long. This error is obvious, when comparing the text with the measurements given, which are: pronotum (length × width): 3.5 × 5.0 mm.

References

Benesh, B. 1955. Ent. News, LXVI (4), pp. 97–104.
Sherborn, C. D., et F. J. Griffin. 1934. Ann. Mag. Nat. Hist. (10), XIII, pp. 130–134.

A Dog Tick, Dermacentor variabilis (Say), on a Human in Southwestern Ontario

In August, 1955 an engorged female tick, *Dermacentor variabilis* (Say), was found attached to the right leg of a man, about 45 years old, employed as a tobacco curer on a farm about 5 miles southwest of Tillsonburg, Oxford County, Ontario. The tick was located over the tibia antero-laterally at the junction of the middle and lower thirds of the leg. It was reported by the man that he was from the southern United States and had recently come north to cure tobacco. It could not be determined whether the tick had become attached to him in the south or after his arrival in Ontario, but in any case the tick was removed from him in living condition. The length of the tick, from the cephalic points of the scapulae to the caudal margin, was 10.2 mm. and its greatest width, at the level of the anus, was 7.5 mm. The specimen is preserved in fluid in the collection of the Department of Zoology, University of Western Ontario. Clinical data were contributed by C. C. Lee, M.D., of Tillsonburg and the specimen was given to the writer, for identification, by W. M. Wilson, M.D., Regional Laboratory of Health (Ontario), London, Ontario.—W. W. Judd, Department of Zoology, University of Western Ontario, London, Ontario.

A New Species of Gall-forming Bucculatrix from Florida (Lepidoptera: Lyonetiidae)

By ANNETTE F. BRAUN, Cincinnati, Ohio

In the Journal of the New York Entomological Society, Volume LVI, March, 1948, pp. 43–50, Dr. James G. Needham published a paper describing the habits and early stages of a new species of gall-forming *Bucculatrix* on *Helianthus agrestis* Pollard from Florida. As Dr. Needham plans to publish further details of the life history, the following description of this new species is published in advance of the writer's forthcoming monograph of the genus *Bucculatrix* in North America in order that the name may become available.

Bucculatrix needhami new species

Head white, tuft brown in the center; antennae pale gray. Thorax white, tegulae shaded with fuscous anteriorly. Fore wings white, marked with irrorated fuscous streaks which may vary in distinctness, or one or more of them be absent. In well-marked specimens, the following markings can be distinguished: a median streak from base broadening outwardly for about one-third the wing length, its broad portion ending before the black patch of slightly raised scales lying just below the fold; above the patch of raised black scales this streak continues as an attenuated line to the middle of the wing; just posterior to the raised black scales, a broad streak, parallel to termen, extends to the end of the cell, meeting a small black spot; costad of the median streak, starting at basal fifth is a narrower streak, its point directed toward the small black spot at end of cell; below this streak there is usually a short fine fuscous line; beginning just beyond and below middle of costa is a more or less broad very oblique streak which extends into the apical area. Apical costal area dusted with fuscous scales. Scattered fuscous dusting along dorsal margin. Scales along termen black-tipped and forming a more or less conspicuous cluster about half-way along the cilia; these scales extend along the

wing margin to the apex, where the dark color is continued as a blackish pencil in the apical cilia. A line of slender finely dark-tipped scales near base of the cilia extends parallel to termen, converging to apex. Hind wings pale gray, cilia rufous at base. Legs white, with fuscous shading, tarsal segments black-tipped. Abdomen whitish.

Alar expanse: 13 to 15 mm.

Type.—♂, Englewood, FLORIDA, March 29, 1946 (J. G. Needham). Gall on stem of *Helianthus agrestis* Pollard. Cornell U. Type No. 3123.

Allotype.—♀, Englewood, FLORIDA, March 24, 1946 (J. G. Needham). Gall on stem of *Helianthus agrestis* Pollard. Cornell U. Type No. 3123.

Paratypes.—3 ♂, 3 ♀, Englewood, FLORIDA, April 5 to April 17, 1946 (J. G. Needham), 1 ♀, Sarasota, Fla., March 24, 1946 (J. G. Needham), all reared from galls on stems of *Helianthus agrestis;* 6 ♂, 3 ♀, 8 mi. W. of Moore Haven, Glades Co., Fla., ex pupa, April 7 to May 17, galls on stems of *Helianthus agrestis* (C. L. Remington & L. Brass.); 1 ♂, 1 ♀, near Hiseville, Barren Co., Ky., imagoes June 3 and June 12, 1941, from galls on stems of *Helianthus angustifolius* L. (A. F. Braun) [A. F. B. Coll.]; 1 ♀, Chicago, Ill., VI. 3. 04 (G. McElhose) [U.S.N.M.]; 1 ♂, Karner, N. Y., April 21, 1903 (N.Y.S. Coll.), "from gall on *Helianthus strumosus*" [U.S.N.M.].

Bucculatrix needhami is one of a group of closely related species, all gall-forming or stem-boring, and characterized by the same general type of genitalia and wing markings, but separated from one another by slight but constant differences. In the forthcoming monograph male and female genitalia, wing markings, gall, and cocoon will be figured.

A New Species of Bregmatothrips from the West (Thysanoptera: Thripidae)

By Lewis J. Stannard, Jr., Illinois Natural History Survey, Urbana

For the most part, representatives of *Bregmatothrips* are southern insects, inhabiting tropical, subtropical or very warm temperate grasslands. One species in North America is the exception. That species, *venustus* Hood, extends northward from near Mexico City into central Illinois.

To the north this genus is replaced, naturally in Europe and accidentally established by man in North America, by the biologically equivalent genera *Limothrips* and *Iridothrips*. These equivalent genera are also related to *Bregmatothrips*.

Superficially *Bregmatothrips* most closely resembles *Iridothrips* but the two genera can be easily distinguished by a comparison of the characteristics listed in the following table. *Limothrips* differs from either by having accessory sternal setae in addition to the posterior setae.

Characteristic	*Bregmatothrips*	*Iridothrips*
Mouth cone	pointed	bluntly rounded
Metaspinisternum	pointed, fig. 1	truncate, fig. 2
Major anterolateral prothoracic setae	mesad of anterolateral corner	At anterolateral corner
Fore vein of fore wing	with interrupted row of setae	with evenly spaced row of setae
Abdominal segment X	shorter than segment IX	longer than segment IX

In a collection of specimens received several years ago from my friend Dr. D. M. Tuttle of the University of Arizona, there was included an apparently new species of *Bregmatothrips*. This species is described herein.

Bregmatothrips sonorensis new species

Female (macropterous).—Length distended, about 1.5 mm. Generally dark brown in color. Yellow: antennal segments III, three-fourths of IV, and the mid portion to three-fourths of V;

apical half of the fore tarsi; extreme apex of mid and hind tarsi; and all tibiae. Fore wings light gray.

Head slightly longer than width across cheeks. Ocelli present. Interocellar setae well developed, placed one on either side of fore ocellus. Pronotum with two pairs of well developed epimeral setae; mid posterior, lateral and anterolateral setae not as long; anterolateral setae each placed considerably inside anterolateral angle. Abdominal sterna without accessory setae in addition to posterior ones.

Male (brachypterous).—Length fully distended over 1.2 mm. Bicolored brown and yellow. Brown: head; antennal segments I, II except apex, apex of IV and V, and all of VI to VIII; outer edge of hind tibiae; and abdominal segments II to X. Rest of body yellow.

Ocelli absent. Abdominal sternal glandular areas absent. Abdominal tergum IX without thorn-like spines.

Holotype.—Female; Yuma, ARIZONA; University of Arizona Experimental Farm; April 16, 1952; (D. M. Tuttle). *Allotype.*—Male; same data as for holotype. *Paratypes.*—2 ♀, 2 ♂; same data as for holotype. Types deposited in the collections of the Illinois Natural History Survey.

Additional records.—1 ♀, 1 ♂; Davis, California; July 24 and December 2, 1939; (S. F. Bailey); from bermuda grass.

Previously the Sonoran populations had been lumped with the midwestern populations under the name *venustus*. Yet these western populations are more easily differentiated from typical specimens of *venustus* than the floridian *gracilis* Hood is from *venustus,* and if members of the taxon *gracilis* deserve specific recognition so also do the western forms.

Going from west to east, the Nearctic *Bregmatothrips* become progressively lighter in color, particularly in the female. The western form, *sonorensis,* has the tibiae dark brown and has a dark apical ring on antennal segment V. The midwestern segregate, *venustus,* has the tibiae mostly yellow and antennal segment V is entirely yellow. *Bregmatothrips venustus* also shows some evidence of yellow in the basal half of antennal segment VI. Farther to the east, in Florida, *gracilis* (= *Limocercyo-*

thrips bicolor Watson) is still lighter in that the base of antennal segment VI is entirely yellow without brown overtones. Otherwise *gracilis* is almost like ***venustus.***

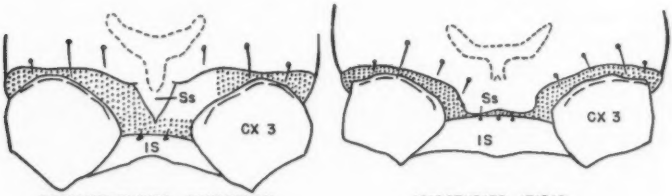

Fig. 1. *Bregmatothrips sonorensis* new species, holotype ♀.
Fig. 2. *Iridothrips iridis* (Watson), ♀ specimen from the U. S. National Museum collected in Boskoop, Holland.

Abbreviations: Ss—metaspinisternum; IS—abdominal sternum I; CX_3—hind coxa.

The species *sonorensis* occupies the crescent from Davis, California to Yuma, Arizona; *venustus* extends from the central part of the United States of America east of the 100 meridian south to the Mexican state of Morelos; and *gracilis* occupies northern Florida. Whether or not any of these species have contiguous ranges or intergrading populations is not known as yet. I strongly suspect that *venustus* and *gracilis* are geographical variants of a single species and that in some southern state they intergrade imperceptibly from one to the other.

Before me is still another species, undescribed, from Chiapas, Mexico. Moulton's record of *venustus* in Cuba was not verified for this paper.

A New Species of the Leptocera lutosa Complex (Diptera: Sphaeroceridae)

By CURTIS W. SABROSKY, Entomology Research Branch, Agricultural Research Service, United States Department of Agriculture

In 1949 (Proc. Ent. Soc. Wash., 51: 1–24, 3 pls.) I published a revision of a group of fifteen closely related species of *Leptocera,* twelve of which were new and many of which had been erroneously identified in collections as *lutosa* (Stenhammar). Another new species in this complex has been found in Florida, and it is described here.

Leptocera weemsi new species

Species of the *lutosa* complex (cf. group characters listed by Sabrosky *,loc. cit.,* p. 2) with four pairs of dorsocentral bristles, a strong pair of acrosticals, chiefly black antennae, uniformly dark gray to black thorax, and bright yellow halteres.

Male, female.—Black to blackish gray, the front anteriorly and third antennal segments mesally toward the base obscurely reddish; legs brown to blackish brown, the tarsi paler, knees and trochanters yellowish; wings brownish tinted; halteres bright yellow.

Interfrontal bristles four in each row, the front and hind bristles weak, the middle two strong, the second from the front slightly stronger than the third; the gray median stripe of pollen anterior to median ocellus narrow, on each side separated by a dark area greater than its own width from the gray interfrontal stripe; occiput with two pale gray areas flanking a dark median postocellar area; facial tubercle narrow, rounded, widening and flattening above between the antennae. Mesonotum with four strong, evenly spaced pairs of dorsocentrals, the posterior pair strongest; nine rows of acrostical setae between the dorsocentrals on anterior half of mesonotum; one well-developed pair of acrostical bristles, slightly anterior to and half as long as the second dorsocentral pair, and flanking the single median

row of acrostical hairs. Preapical anteroventral bristles on hind femora weak and little longer than clothing hairs; hind tibiae with only weak appressed hairs anteriorly and anteroventrally, and the anterodorsal and posterodorsal bristles weak and inconspicuous. Wings similar to *"lutosa"* as figured by Spuler (1924, Annals Ent. Soc. Amer., 17: plate 18, fig. 1), but the outer posterior corner of discal cell angulate and with short appendage.

Male terminalia small, chiefly blackish brown, sparsely set with short hairs; posterior lobe of ninth tergite (cf. terminology of Sabrosky, *loc. cit.*, p. 3) relatively weak; genital forceps slender, almost bristlelike, apically acute; posterior margin of sternite IV strongly concave, sternite V narrow and padlike.

Female terminalia small and inconspicuous; dorsal aspect similar to that of *L. forceps* (Sabrosky, *loc. cit.*, fig. 34), but the dorsal plate broad and thus relatively short, three times as long as broad in middle, its posterior apex obtusely angulate, and a pair of strong setae midway on sides of posterior margin as in *L. michigana* (Sabrosky, *loc. cit.*, fig. 36); last visible sternite with hind margin straight, not produced on midline.

Length, 1.75 mm.

Holotype male, *allotype*, and two *paratypes*, one of each sex, Alachua County, FLORIDA, Nov. 17, 1953 (H. V. Weems, Jr.); paratype male, same locality and collector, Jan. 30, 1954. Type and allotype in the U. S. National Museum (Type No. 63003) by courtesy of the collector; paratypes in the collection of the Florida State Plant Board, Gainesville, Florida.

This species is close to the southeastern *L. spuleri* Sabrosky, notably in the possession of four pairs of dorsocentral bristles and a posteriorly angulate discal cell. The former of these characters distinguishes *spuleri* and *weemsi* from the other species in the complex, which have five pairs, although the second is usually shorter than the other bristles. However, *weemsi* is easily distinguished from *spuleri* by the characters used in the following couplets, which will replace couplet 2 of my previous key:

2. Dorsocentral bristles in four evenly spaced pairs, all strong.....2a
Dorsocentrals in five pairs, the second usually weaker than the others.....3

2a. No acrostical bristles; eight rows of approximately equal hairs between the dorsocentrals on anterior half of mesonotum; third antennal segments distinctly reddish yellow on inner surfaces; four setae in each interfrontal row, the second long and bristlelike, the others weak; mesonotum light gray with three usually rather distinct stripes, especially when viewed from behind.....*L. spuleri* Sabrosky
One pair of strong acrosticals, opposite the second dorsocentrals; nine rows of acrostical hairs anteriorly, the single median row passing between the acrosticals; third antennal segments almost entirely black; four interfrontal setae in each row, the anterior and posterior weak, the middle two strong; mesonotum uniformly dark, blackish gray.....
.....*L. weemsi,* new species

Nomenclature Notice

All comments relating to the following should be marked with the Commission's File Number and sent to Francis Hemming, 28 Park Village East, Regent's Park, London N.W. 1, England.

Lepisma Linnaeus 1758 (Class Insecta, Order Thysanura), attribution of a gender for, in harmony with accustomed usage (File: Z.N. (S.) 988).
For details see: Bull. Zool. Nomencl. Vol. 11, Part 9.

Curtis (J.), 1837, **A Guide to an Arrangement of British Insects** (Ed. 2), suppression of, for purposes of selections of type species of genera (File: Z.N. (S.) 298).
For details see: Bull. Zool. Nomencl. Vol. 9, Part 12.

Entomological Departments

Believing such material to be of interest to its readers, ENTOMOLOGICAL NEWS herewith solicits articles similar to the one here presented and giving information on the organization and activities of entomologists in colleges, universities, museums, and in government and other groups.

Pennsylvania State University

University Park, Pa.

Although the Pennsylvania State University was established as the Farmer's High School in 1855 and numerous courses in zoology were taught as early as 1862, no organized department can be recognized until 1890 when Dr. H. T. FERNALD was appointed professor of zoology. Activity in this field is evident from various theses presented, in 1889, "A comparative study of the heart of the ox and the cat" also in 1892 "A comparison of the nervous system of the pupal and adult ant."

In 1895 a Department of Zoology was established in the School of Natural Sciences. Dr. Fernald was made head of this department and served until 1901 when he resigned and Dr. H. A. SURFACE was appointed in his place. Dr. Surface's efforts in building our department are still recognized. Later he distinguished himself by his studies and writings in zoology at the Pennsylvania Department of Agriculture. During these early days very few students chose the field of biology; but 1896 was an unusual year and four students graduated in zoology. The first master's degree was conferred in 1906.

From 1908 to 1912 W. R. MCCONNELL was in charge of zoology. The following year M. W. EDDY, now Professor Emeritus at Dickinson College, was appointed head of the department of zoology and served until 1918 when Dr. E. H. DUSHAM, now retired, took his place.

In 1924 the department was given its present name, THE DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY, and was transferred to the School of Agriculture. Many new positions in teaching and research were created and the following years marked considerable advance in these fields.

The insect collection was initiated by S. W. FROST in 1937.

United States National Museum drawers, museum cases and the unit tray system were adopted. Today the collection is contained in 35 cabinets, 420 insect drawers, and consists of approximately 5000 identified species. This does not include nearly 40,000 specimens of immature insects.

Dr. B. G. ANDERSON, formerly of the Department of Biology, West Virginia University, assumed direction of the Department of Zoology and Entomology in 1953. Already considerable growth is evident. The Fall of 1955 there were 23 undergraduate students majoring in Zoology and Entomology, 26 candidates for the master's degree and 3 students registered for their doctorates.

Today we offer fundamental and applied courses in zoology and entomology as follows: In zoology 8 courses are offered on the undergraduate level, 15 courses are open to undergraduates and graduates, and 10 courses are open only to graduate students. In entomology 6 courses are offered to undergraduate students, 8 courses are open to undergraduates and graduates, and 6 courses are open only to graduate students. We are in a position to offer graduate assistanceships in zoology and entomology. At present there are 10 graduate research assistants, 6 graduate teaching assistants and one fellowship. We need and in the future hope to offer further assistance.

The teaching staff includes Dr. N. D. BLACKBURN (Forest Insects, Insect Control, Immature Insects); Dr. C. W. RUTSCHKY (Insect Taxonomy, and Morphology); Dr. B. F. COON, who was recently transferred from the Lancaster field station; Dr. S. W. FROST (General Entomology and Fruit and Vegetable Insects); and Dr. HERBERT FRINGS, a zoologist who teaches Medical Entomology. An advanced course in Insecticides is taught by Dr. D. E. H. FREAR of the Department of Agricultural Biological Chemistry.

Research projects currently pursued include that of Dr. Blackburn on forage insects; Dr. Rutschky on the corn earworm; Dr. Rutschky, along with Dr. T. H. CHENG, a zoologist, on the flies of cattle; an extensive one by Dr. Coon on the breeding of insect-resistant plants, especially wheat and corn.

Dr. Smyth is working on the neurophysiology of insects, and Dr. Frings on the effects of high frequency sounds on animals including insects. Dr. HARRISON TIETZ is interested in the Lepidoptera. Dr. Frost has charge of the insect collections, and has been conducting an insect survey of the State of Pennsylvania.

There are three permanent field stations at which research is conducted: at Arendtsville, where DEAN ASQUITH is working on insects of apple and peach, at North East, Erie Co., for insects on cherry and grape, under JAMES A. COX, and at Kennett Square where C. A. THOMAS is engaged in research on mushroom insects.

THE DEPARTMENT OF EXTENSION ENTOMOLOGY is a large, well organized and separate department under Professor J. O. PEPPER as chairman. This Department was established in 1917 under the direction of Dr. C. H. HADLEY. A year later Professor H. E. HODGKISS took over the direction and served until 1944 when Dr. Pepper was placed in charge. The personnel includes: S. G. GESELL, HENRY MENUSAN, L. E. ADAMS, E. J. UDINE, and W. W. CLARK.

S. W. FROST.

Notes and News in Entomology

Zoogeography of Pacific Insects

The Entomology Department, Bishop Museum, Honolulu, is embarking on an entomological survey of the major island groups of the Southwest Pacific. The areas to be investigated are those considered important from the standpoint of the origin of the Oceanic, or Micropolynesian, insect fauna. Field work is planned for the islands stretching from the New Hebrides to Southeast Asia, with emphasis on New Guinea and nearby island groups. The National Science Foundation has granted $23,000 to aid the project during the three-year period 1956–1958. These funds will be used for field work and for

continuing the services of Miss SETSUKO NAKATA for the preparing of the collections for study. Bishop Museum is supplying equipment and additional staff. The project is under the supervision of J. L. GRESSITT, chairman of the department. Mrs. DOROTHY RAINWATER and several museum associates or volunteers are also assisting. Collaboration with other organizations interested in the area is being planned. Collecting for the project commenced in 1955 when Dr. Gressitt spent four months as a Guggenheim Fellow in New Guinea and New Britain, mainly in the highlands of NE New Guinea and western Netherlands New Guinea, in areas where little or no insect collecting had previously been done.

In 1956 emphasis will be on eastern New Guinea, the Bismarcks, and Solomons. An invitation from the Territory of Papua and New Guinea to make an ecological study of a coconut beetle in New Britain will permit Gressitt's trip at almost no expense to the grant. He will work two months in New Britain, with collecting trips to Guadalcanal, Bougainville, New Ireland and eastern New Guinea. Mr. E. J. FORD, JR., on leave from the USDA, will spend five months in New Britain, New Ireland, Bougainville, and eastern New Guinea. Work is planned for the New Hebrides, Solomons, and New Guinea for 1957, and for New Guinea and Indonesia in 1958.

On the return trip from New Guinea in 1955, Gressitt stopped to collect on Vanua Levu Island of Fiji, to help fill a gap in the museum's collections, which are the largest in the world for the oceanic Pacific Islands, particularly for Fiji, Samoa, and SE Polynesia. In early 1955 N. L. H. KRAUSS added to the Fiji, Samoa, and Tahiti collections, and in January 1956 Krauss went to collect in Tonga, the only serious gap in the museum's Polynesian collections.

It is expected that research on the collections will be done largely by the specialists who are collaborating on the "Insects of Micronesia" project.

The present status of "Insects of Micronesia" is as follows:

Published: 1—GRESSITT: Introduction; 2—ESAKI, BRYAN, GRESSITT: Bibliography; 8 (1)—Ross: Embioptera; 17 (1)—

GRESSITT: Chrysomelidae; 19 (1)—DOUTT: Trichogrammatidae, Mymaridae; 13 (1)—HARDY: Dorilaidae; 14 (1)—HARDY and ADACHI: Tephritidae; 7 (1)—CARVALHO: Miridae; 17 (2)—GRESSITT: Cerambycidae.

In press: 6 (1)—TAKAHASHI: Aleyrodidae; 6 (2)—ESSIG: Aphididae; 6 (3)—FENNAH: Fulgoroidea; 7 (2)—DRAKE: Tingitidae; 12 (1)—R. BOHART: Culicidae; 3 (1)—BEIER: Pseudoscorpionida. Nine additional manuscripts recently received.—J. L. GRESSITT.

"List of Entomologists of the Pacific Area"

This is a list of 941 entomologists working in the Pacific area or interested in Pacific insects, and is intended to facilitate closer communication and cooperation. The names are listed under the countries, numbered consecutively, and for each the address is given, and the entomological specialty. In addition to entomologists from countries bordering the Pacific Ocean, there are also included some eastern Americans, South Americans and Europeans who are studying Pacific insects. There is also a list of entomological organizations located in Pacific countries, including research organizations in Universities and museums, as well as other groups that are doing entomological work in agricultural stations and elsewhere. There is a subject index, running from "Acarina" to "Zoraptera," and including also entries such as "Biochemistry of insects", "Biological control", "Coconut insects", "Forest insects", etc. Each such entry gives the serial numbers of those entomologists in the list that are interested in the particular specialty.

This list, which comprises 82 mimeographed pages was published at the Bishop Museum, Honolulu 17, Hawaii. It was prepared by the STANDING COMMITTEE ON PACIFIC ENTOMOLOGY of the Pacific Science Association, of which Dr. J. L. GRESSITT is the chairman. This association is a non-governmental, international, scientific organization, established in 1920 by principal scientific organizations representing countries bordering the Pacific or with interests therein. It has a number of standing committees which report to the Pacific Science Con-

gresses, the ninth of which is scheduled to be held in Bangkok in late 1957 or early 1958.—R. G. SCHMIEDER

Reviews

THE WORLD OF BEES. By Gilbert Nixon. Illustrations by Arthur Smith. Philosophical Library, New York, 1955. (Printed in Great Britain.) Pp. 214. Price, $4.75.

Gilbert Nixon has been a bee enthusiast since childhood. He here displays a fine gift for telling about his favorites in non-technical language. The early chapters deal with the solitary forms, their nest-building (miners, carpenters, masons, plasterers), and their life histories, after which come the social bees (bumble, stingless, honey), and also the parasitic bees.

Although attention is called to interpretations of bees' behavior, the author is primarily concerned with elucidating the facts rather than in solving problems. Each knowledgeable reader will find that one or another important topic has been omitted or slighted, and yet he will find it difficult to find space for it by suggesting what included facts might be omitted. On the whole, the choice of material is excellent and will provide a good foundation upon which anyone can proceed to acquire a more complete understanding.

Some will be inclined to censure the anthropomorphisms in the descriptions of bees' activities. Usually the author does not overstep proper limits, unless one objects to such statements as, "The honey bee cannot resist sweetness, she is made that way." What would be gained by replacing "cannot resist," "sweetness," and "made that way," by technical terminology? Certainly not the readability of this book.

One idea that is mentioned, though not specifically supported, is that of "nutritional castration," as an explanation of the development of workers. This bit of muddled thinking is too often repeated in books on social insects, usually, but not here, along with that combination of anthropomorphic thinking and Lamarckianism known as "trophallaxis." The implication that

insufficient food is the reason for development of workers is not in accordance with our knowledge that every fertilized egg has a dual potentiality and that the presence or absence of a small amount of some still unknown substance in the food provided to the newly hatched larva triggers the development of one or the other caste. Even undersized queens, which occur occasionally, do not, except in size, resemble workers but are "every inch a queen." Finally, in the parasitic hymenoptera, size differences due to food are frequent and striking, and both large and small individuals are fertile and morphologically alike.

The solitary bees in this book are British species but are similar in their habits to others the world over. The 16 full-page illustrations include a colored frontispiece and full-page or half-page line drawings of various species, or of their nests, all carefully done in minute detail and printed on special paper. —R. G. SCHMIEDER.

CROP PROTECTION. By G. J. Rose. Philosophical Library, New York (Printed in Great Britain). Pp. xxi + 223, figs. 113. Price: $10.00.

This is a practical guide that considers crop protection in its widest sense, and is designed for world-wide use. It discusses fundamental principles and also provides a great deal of detailed information, in concise form, on the chemicals available, their uses and methods of application. The 113 figures are mostly full-page or half-page illustrations showing methods of applying insecticides, weed killers, etc., the machinery used, and detailed views of machine parts and sections to show construction details. They include over 60 half-tone plates (seven colored) and many line engravings in the text.—R. G. SCHMIEDER.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Conopidae of the World wanted. Will pay 10¢ to $1.00 for pinned and labelled specimens. S. Camras, 4407 N. Milwaukee Ave., Chicago 30, Illinois.

Anisoptera—Nearctic sp. wanted for exchange, espec. Ophiog., Arigom., Aeschna, Neurocor., Somatoc., Cordulia, Dorocor., Leucor. R. D. Cuyler, Dept. of Entomology, N. C. State College, Raleign, N. C.

Bembicini and Stizini (Hym., Sphec.) of New World wanted for revis. study. Will return upon request or at end of project. James E. Gillaspy, Dept. of Zoology, Univ. Texas, Austin 12, Texas.

Agapema galbina. Will exchange cocoons of this moth for nature books. E. Frizzell, Route 4, Box 96, San Benito, Texas.

Wanted—Data on exact location of colonies of *Epibembex* (olim *Bembix*) (Hymenoptera), any species, any part of country, for biological studies. Howard E. Evans, Dept. Entomology, Cornell Univ., Ithaca, N. Y.

Fanniinae wanted on loan (nearctic and holarctic), and information on collections. James G. Chillcott, Dept. Entom., Univ. of Kansas, Lawrence, Kan. (Loans may be charged to Dr. C. D. Michener.)

Tenebrionidae of the World wanted, in exchange for insects of Argentina and neighboring countries. Horacio J. Molinari, Av. Lib. Gral. San Martin 55, Acassuso (Buenos Aires), Rep. Argentina.

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